

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A composition for the oxidation dyeing of keratin fibers comprising, in a medium suitable for dyeing:

- a) at least one oxidation dye,
- b) at least one cationic associative polymer chosen from quaternized celluloses modified with groups comprising at least one fatty chain, quaternized hydroxyethylcelluloses modified with groups comprising at least one fatty chain and cationic polyurethanes,
- c) at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain, and
- d) at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain;

wherein the weight ratio of the at least one nonionic cellulose based compound not containing a C₈-C₃₀ fatty chain to the at least one cationic associative polymer ranges from 0.1 to 10.

2. (Original) The composition according to Claim 1, wherein the keratin fibers are human keratin fibers.

3. (Original) The composition according to Claim 1, wherein the keratin fibers are hair.

4. (Original) The composition according to Claim 1, wherein the at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain is chosen from unsubstituted celluloses and cellulose ethers.

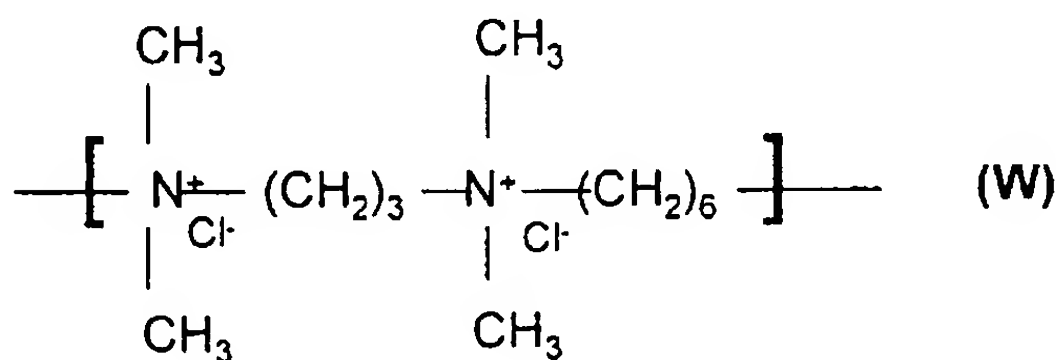
5. (Original) The composition according to Claim 4, wherein the at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain is chosen from (C₁-C₄)alkylcelluloses; hydroxy(C₁-C₄)alkylcelluloses; hydroxyethylcelluloses; hydroxypropylcelluloses; and mixed hydroxy(C₁-C₄)alkyl(C₁-C₄)alkylcelluloses.

6. (Original) The composition according to Claim 1, wherein the at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain is present in the composition in an amount ranging from 0.1% to 10% by weight relative to the total weight of the composition.

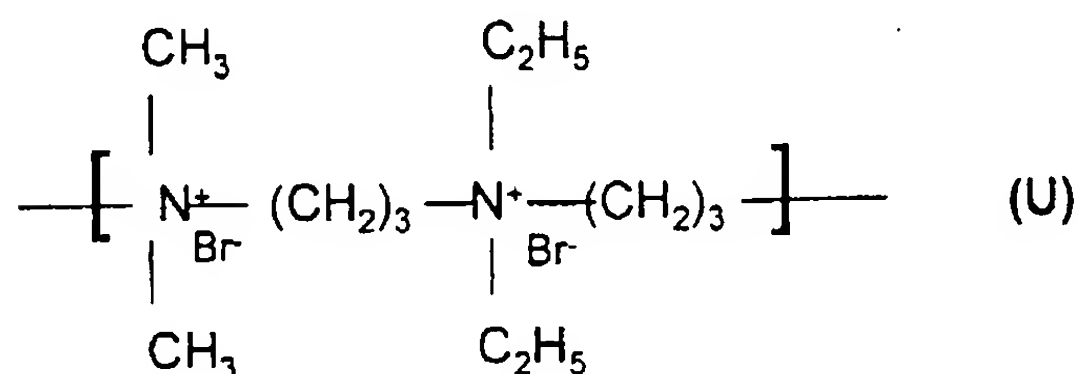
7. (Original) The composition according to Claim 1, wherein the at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain is present in the composition in an amount ranging from 1% to 5% by weight relative to the total weight of the composition.

8. (Original) The composition according to Claim 1, wherein the at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain is dimethyldiallylammonium chloride homopolymer.

9. (Original) The composition according to Claim 1, wherein the at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain is a polymer containing repeating units corresponding to formula (W) below:



10. (Original) The composition according to Claim 1, wherein the at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain is a polymer containing repeating units corresponding to formula (U) below:



11. (Original) The composition according to Claim 1, wherein the at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain is present in the composition in an amount ranging from 0.1% to 10% by weight relative to the total weight of the composition.

12. (Original) The composition according to Claim 11, wherein the at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain is present in the composition in an amount ranging from 1% to 5% by weight relative to the total weight of the composition.

13. (Original) The composition according to Claim 1, wherein the at least one associative polymer is chosen from nonionic, anionic, cationic, and amphoteric associative polymers.

14. (Original) The composition according to Claim 13, wherein the at least one associative polymer is a nonionic associative polymer comprising at least one hydrophilic unit and at least one fatty-chain allyl ether unit.

15. (Original) The composition according to Claim 14, wherein the at least one hydrophilic unit is an ethylenic unsaturated anionic monomer.

16. (Original) The composition according to Claim 15, wherein the ethylenic unsaturated anionic monomer is a vinylcarboxylic acid.

17. (Original) The composition according to Claim 14, wherein the at least one fatty-chain allyl ether unit is a monomer of formula (I) below



wherein R' is chosen from H and CH₃, B is an ethyleneoxy radical, n is chosen from zero and an integer ranging from 1 to 100, R is a hydrocarbon-based radical chosen from alkyl, arylalkyl, aryl, alkylaryl, and cycloalkyl radicals, comprising from 8 to 30 carbon atoms.

18. (Original) The composition according to Claim 17, wherein R is a hydrocarbon-based radical chosen from alkyl, arylalkyl, aryl, alkylaryl, and cycloalkyl radicals, comprising from 10 to 24 carbon atoms.

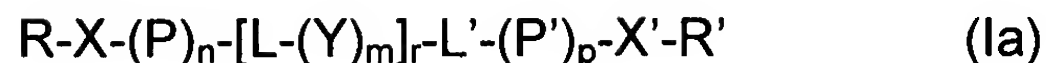
19. (Original) The composition according to Claim 18, wherein R is a hydrocarbon-based radical chosen from alkyl, arylalkyl, aryl, alkylaryl, and cycloalkyl radicals, comprising from 12 to 18 carbon atoms.

Claims 20-30 (Canceled).

31. (Previously Presented) The composition according to Claim 1, wherein the at least one fatty chain of the quaternized celluloses or hydroxyethylcelluloses contains from 8 to 30 carbon atoms.

32. (Previously Presented) The composition according to Claim 31, wherein the quaternized hydroxyethylcellulose is modified with a C₁₂ or C₁₈ alkyl group resulting in a cationic amphiphilic polymer.

33. (Previously Presented) The composition according to Claim 1, wherein the cationic polyurethane is a polymer of formula (Ia) below:



wherein:

R and R', which may be identical or different, are chosen from a hydrophobic group and a hydrogen atom;

X and X', which may be identical or different, are chosen from a group comprising an amine function optionally bearing a hydrophobic group, and alternatively a group L";

L, L' and L", which may be identical or different, are each a group derived from a diisocyanate;

P and P', which may be identical or different, are each a group comprising an amine function optionally bearing a hydrophobic group;

Y is a hydrophilic group;

r is an integer ranging from 1 to 100; and

n, m and p each range, independently of each other, from 0 to 1000;

wherein the molecule containing at least one protonated or quaternized amine function and at least one hydrophobic group.

34. (Original) The composition according to Claim 33, wherein r is an integer ranging from 1 to 50.

35. (Original) The composition according to Claim 34, wherein r is an integer ranging from 1 to 25.

Claims 36-43 (Canceled).

44. (Previously Presented) The composition according to Claim 1, wherein the at least one cationic associative polymer is present in the composition an amount ranging from 0.05% to 10% by weight relative to the total weight of the composition.

45. (Previously Presented) The composition according to Claim 44, wherein the at least one cationic associative polymer is present in the composition an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

Claims 46-48. (Canceled).

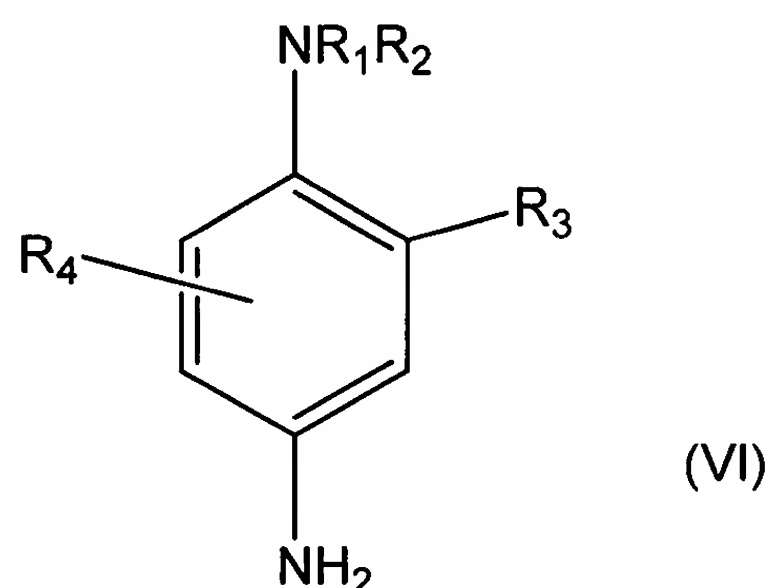
49. (Currently Amended) The composition according to Claim 1[[48]], wherein the weight ratio of the at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain to the at least one cationic associative polymer ranges from 0.5 to 5.

50. (Original) The composition according to Claim 1, wherein the at least one oxidation dye is chosen from oxidation bases and couplers.

51. (Original) The composition according to Claim 50, wherein the at least one oxidation dye comprises at least one oxidation base.

52. (Original) The composition according to Claim 51, wherein the at least one oxidation base is chosen from ortho- and para-phenylenediamines, double bases, ortho- and para-aminophenols, heterocyclic bases, and the acid addition salts of these compounds.

53. (Original) The composition according to Claim 52, wherein the para-phenylenediamines are chosen from compounds of structure (VI) below:



wherein:

- R_1 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a $(C_1$ - $C_4)$ alkoxy $(C_1$ - $C_4)$ alkyl radical, and a C_1 - C_4 alkyl radical substituted with a nitrogenous, phenyl or 4'-aminophenyl group;

- R_2 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a $(C_1$ - $C_4)$ alkoxy $(C_1$ - $C_4)$ alkyl radical, and a C_1 - C_4 alkyl radical substituted with a nitrogenous group;

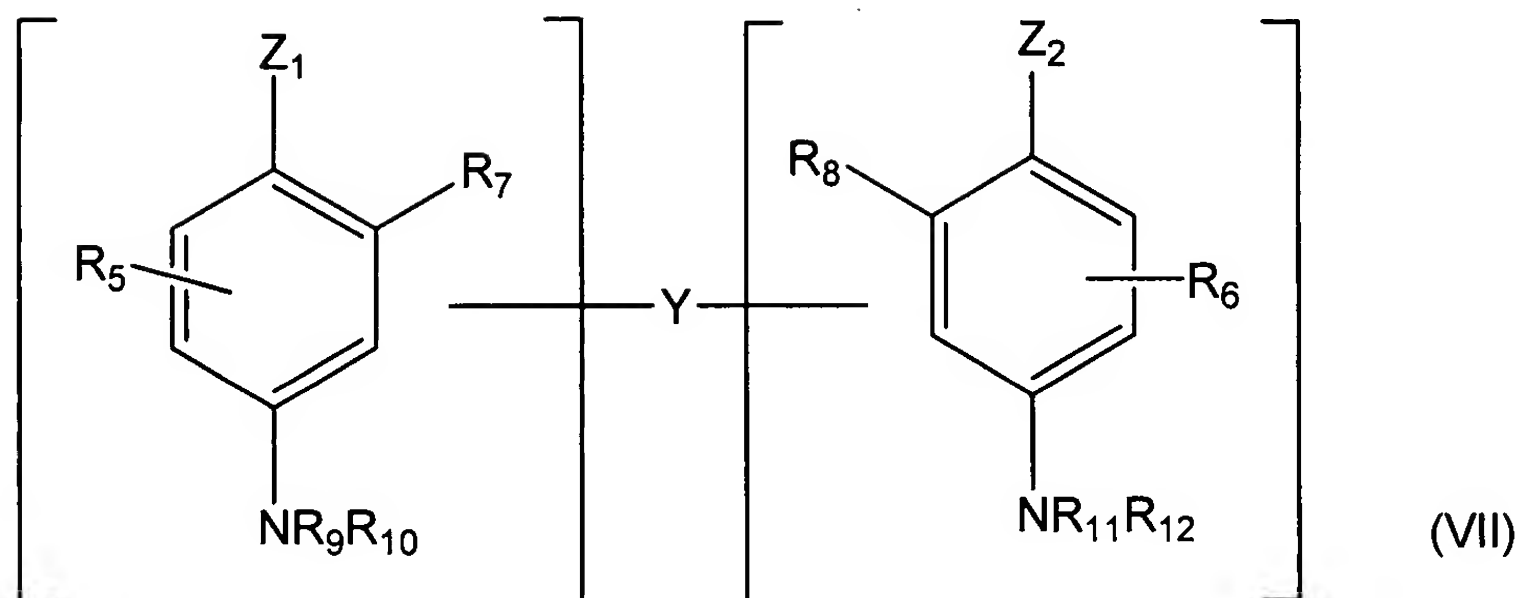
R_1 and R_2 may also form, with the nitrogen atom that bears them, a 5- or 6-membered nitrogenous heterocycle optionally substituted with at least one alkyl, hydroxyl, or ureido groups;

- R_3 is chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl radical, a sulphonyl radical, a carboxy radical, a C_1 - C_4 monohydroxyalkyl radical, a C_1 - C_4 hydroxyalkoxy radical, an acetylamino $(C_1$ - $C_4)$ alkoxy radical, a mesylamino $(C_1$ - $C_4)$ alkoxy radical, and a carbamoylamino $(C_1$ - $C_4)$ alkoxy radical, and

- R_4 is chosen from a hydrogen atom, a halogen atom, and a C_1 - C_4 alkyl radical.

54. (Original) The composition according to Claim 53, wherein that halogen atom of R_3 is a chlorine atom.

55. (Original) The composition according to Claim 52, wherein the double bases are chosen from the compounds of structure (VII) below:

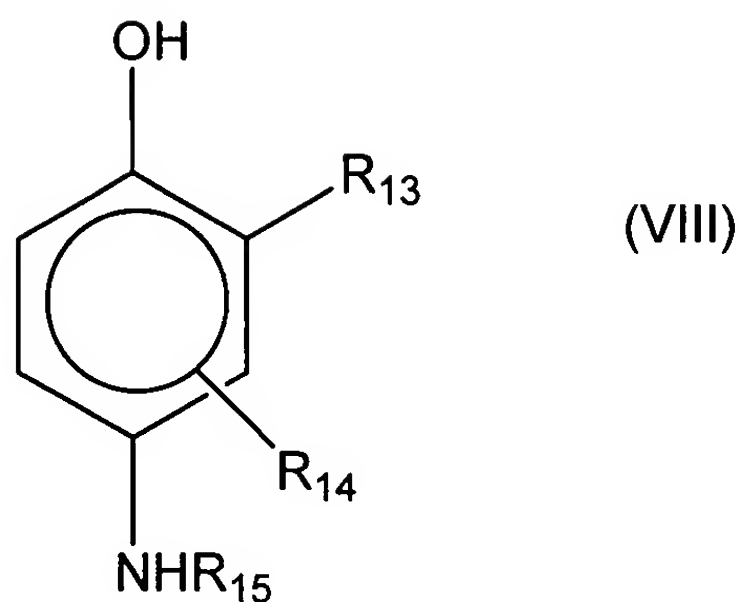


wherein:

- Z_1 and Z_2 , which may be identical or different, are chosen from a hydroxyl radical, and a $-NH_2$ radical which may be substituted with a C_1 - C_4 alkyl radical or with a linker arm Y;
- the linker arm Y is a linear or branched alkylene chain containing from 1 to 14 carbon atoms, which may be interrupted by or terminated with at least one nitrogenous groups and/or at least one hetero atoms, and optionally substituted with at least one hydroxyl or C_1 - C_6 alkoxy radicals;
- R_5 and R_6 , which may be identical or different, are chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a C_1 - C_4 aminoalkyl radical, and a linker arm Y; and
- R_7 , R_8 , R_9 , R_{10} , R_{11} and R_{12} , which may be identical or different, are chosen from a hydrogen atom, a linker arm Y, and a C_1 - C_4 alkyl radical;

wherein the compounds of formula (VII) contain only one linker arm Y per molecule.

56. (Original) The composition according to Claim 52, wherein the para-aminophenols are chosen from compounds of formula (VIII) below:



wherein:

R_{13} is chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl, C_1 - C_4 monohydroxyalkyl, $(C_1$ - C_4)alkoxy(C_1 - C_4)alkyl, C_1 - C_4 aminoalkyl, and hydroxy(C_1 - C_4)alkylamino(C_1 - C_4)alkyl radical,

R_{14} is chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl, C_1 - C_4 monohydroxyalkyl, C_2 - C_4 polyhydroxyalkyl, C_1 - C_4 aminoalkyl, C_1 - C_4 cyanoalkyl, and $(C_1$ - C_4)alkoxy(C_1 - C_4)alkyl radical, and

R_{15} is chosen from a hydrogen atom and a C_1 - C_4 alkyl radical.

57. (Original) The composition according to Claim 56, wherein the halogen atom in at least one of R_{13} or R_{14} is fluorine,

58. (Original) The composition according to Claim 52, wherein the heterocyclic bases are chosen from pyridine derivatives, pyrimidine derivatives, and pyrazole derivatives.

59. (Original) The composition according to Claim 51, wherein the at least one oxidation base is present in the composition in an amount ranging from 0.0005% to 12% by weight relative to the total weight of the composition.

60. (Original) The composition according to Claim 59, wherein the at least one oxidation base is present in the composition in an amount ranging from 0.005% to 8% by weight relative to the total weight of the composition.

61. (Original) The composition according to Claim 50, wherein the at least one oxidation dye is at least one coupler chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols, heterocyclic couplers, and the acid addition salts thereof.

62. (Original) The composition according to Claim 50, wherein the at least one coupler is present in the composition in an amount ranging from 0.0001% to 10% by weight relative to the total weight of the composition.

63. (Original) The composition according to Claim 62, wherein the at least one coupler is present in the composition in an amount ranging from 0.005% to 5% by weight relative to the total weight of the composition.

64. (Original) The composition according to Claim 52, wherein the acid addition salts of the at least one oxidation base are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates, and acetates.

65. (Original) The composition according to Claim 52, wherein the acid addition salts of the at least one coupler are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates, and acetates.

66. (Original) The composition according to Claim 1, further comprising at least one direct dye.

Claims 67-70 (Canceled).

71. (Original) The composition according to Claim 1, further comprising at least one surfactant chosen from anionic, amphoteric, nonionic, zwitterionic, and cationic surfactants.

72. (Original) The composition according to Claim 71, wherein the at least one surfactant is nonionic.

73. (Original) The composition according to Claim 71, wherein the at least one surfactant is present in the composition in an amount ranging from 0.01% to 40% by weight relative to the total weight of the composition.

74. (Original) The composition according to Claim 73, wherein the at least one surfactant is present in the composition in an amount ranging from 0.5% to 30% by weight relative to the total weight of the composition.

75. (Original) The composition according to Claim 1, further comprising at least one additional thickener.

76. (Original) The composition according to Claim 75, wherein the at least one additional thickener is chosen from a cellulose-based thickener, a guar gum derivative, a gum of microbial origin, and a synthetic thickener.

77. (Original) The composition according to Claim 75, wherein the at least one additional thickener is present in the composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

78. (Original) The composition according to Claim 1, further comprising at least one reducing agent which is present in the composition in an amount ranging from 0.05% to 1.5% by weight relative to the total weight of the composition.

79. (Currently Amended) A ready-to-use composition comprising, in a medium suitable for dyeing:

- a) at least one oxidation dye,
- b) at least one cationic associative polymer chosen from quaternized celluloses modified with groups comprising at least one fatty chain, quaternized hydroxyethylcelluloses modified with groups comprising at least one fatty chain and cationic polyurethanes,
- c) at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain,
- d) at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain, and
- e) at least one oxidizing agent;

wherein the weight ratio of the at least one nonionic cellulose based compound not containing a C₈-C₃₀ fatty chain to the at least one cationic associative polymer ranges from 0.1 to 10.

80. (Original) The composition according to Claim 79, wherein the at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, ferricyanides, persalts, and redox enzymes, optionally with the respective donor or cofactor thereof.

81. (Original) The composition according to Claim 80, wherein the at least one oxidizing agent is hydrogen peroxide.

82. (Original) The composition according to Claim 81, wherein the at least one oxidizing agent is an aqueous hydrogen peroxide solution whose titre ranges from 1 to 40 volumes.

83. (Original) The composition according to Claim 82, wherein the composition has a pH ranging from 4 to 11.

84. (Currently Amended) A process for the oxidation dyeing of keratin fibers comprising:

(i) applying to the keratin fibers at least one composition (A) comprising, in a medium suitable for dyeing,

a) at least one oxidation dye,

b) at least one cationic associative polymer chosen from quaternized celluloses modified with groups comprising at least one fatty chain, quaternized hydroxyethylcelluloses modified with groups comprising at least one fatty chain and cationic polyurethanes,

c) at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain, and

d) at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain;

wherein the weight ratio of the at least one nonionic cellulose based compound not containing a C₈-C₃₀ fatty chain to the at least one cationic associative polymer ranges from 0.1 to 10;

(ii) applying to the keratin fibers at least one composition (B) comprising at least one oxidizing agent.

85. (Original) The process according to Claim 84, wherein the keratin fibers are hair.

86. (Original) The process according to Claim 84, comprising mixing, at the time of use, the at least one composition (A) and the at least one composition (B).

87. (Original) The process according to Claim 84, wherein the at least one composition (B) is applied sequentially before or after the at least one composition (A), with or without intermediate rinsing.

88. (Original) The process according to Claim 84, wherein the color of the fibers is developed at an alkaline, neutral or acidic pH.

89. (Currently Amended) A multicompartment kit comprising:

(i) a first compartment comprising at least one composition (A) comprising, in a medium suitable for dyeing,

a) at least one oxidation dye,

b) at least one cationic associative polymer chosen from quaternized celluloses modified with groups comprising at least one fatty chain, quaternized hydroxyethylcelluloses modified with groups comprising at least one fatty chain and cationic polyurethanes,

c) at least one nonionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain, and

d) at least one cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain;

wherein the weight ratio of the at least one nonionic cellulose based compound not containing a C₈-C₃₀ fatty chain to the at least one cationic associative polymer ranges from 0.1 to 10;

(ii) a second compartment comprising at least one composition (B) comprising at least one oxidizing agent.